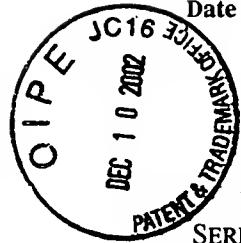


12-11-02

1645

Express Mail Label No.: EV139501751US  
Date of Deposit: December 10, 2002

Attorney Docket No. 22510-501



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS : McCarthy, et al.  
SERIAL NUMBER : 09/996,187 EXAMINER : 1645  
FILING DATE : November 27, 2001 ART UNIT : Not Yet Assigned  
FOR : Functional Protein Expression for Rapid Cell-Free Phenotyping

BOX IDS

Commissioner for Patents  
Washington, D.C. 20231

TRANSMITTAL LETTER

Transmitted herewith for filing in the present application are the following documents:

1. Information Disclosure Statement (2 pages), in duplicate;
2. Modified Form 1449/PTO (6 pages), in duplicate;
3. Copies of cited references A1-A64, B1-B8 and C1-C115; and
4. Return Postcard.

If the enclosed papers are considered incomplete, the Mail Room and/or the Application Branch is respectfully requested to contact the undersigned at (617) 542-6000, Boston, Massachusetts.

The Commissioner is authorized to charge any fees that may be due, or to credit any overpayment, to the undersigned's account, Deposit Account No. 50-0311 Ref. No. 22510-501. A duplicate copy of this transmittal letter is enclosed herewith.

Respectfully submitted,

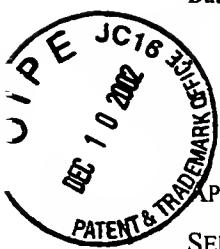
*Christina R. Kamakos*, Reg. No. 45,899  
Ivor R. Elrifi, Reg. No. 39,529  
for Attorney for Applicants  
MINTZ, LEVIN, COHN, FERRIS,  
GLOVSKY and POPEO, P.C.  
One Financial Center  
Boston, Massachusetts 02111  
Tel: (617) 542-6000  
Fax: (617) 542-2241



30623

PATENT TRADEMARK OFFICE

#12  
12-20-02  
RP



## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: McCarthy, et al.  
SERIAL NUMBER: 09/996,187 EXAMINER : Not Yet Assigned  
FILING DATE: November 27, 2001 ART UNIT : 1645  
FOR: Functional Protein Expression for Rapid Cell-Free Phenotyping

### BOX IDS

Commissioner for Patents  
Washington, D.C. 20231

### INFORMATION DISCLOSURE STATEMENT

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, Applicants hereby make of record the documents listed on the attached modified Form PTO-1449, as well as copies of the listed documents.

This Information Disclosure Statement is being filed before the mailing date of a first Office Action based on the merits in the above-identified case. Accordingly, no fee or certification is believed required.

It is respectfully requested that the Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims, and signs the enclosed form PTO-1449 to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application.

By submitting this Information Disclosure Statement, the Applicants make no representation that: (1) a search has been performed, of the extent of any search performed, or that more relevant information does not exist; (2) the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b); and (3) the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

APPLICANTS: McCarthy, et al.  
U.S.S.N.: 09/996,187

Notwithstanding any statements by the Applicants, the Examiner is urged to form his/her own conclusion regarding the relevance of the cited information. An early and favorable action is hereby requested.

Please charge any fees that may be due, or credit any overpayment of same, to Deposit Account No. 50-0311, Reference No. 22510-501.

Respectfully submitted,

*Christina V. Kamath*, Reg. No. 45,899  
Dor R. Elrifi, Reg. No. 39,529  
Attorney for Applicants  
MINTZ, LEVIN, COHN, FERRIS,  
GLOVSKY and POPEO, P.C.  
One Financial Center  
Boston, Massachusetts 02111  
Tel: (617) 542-6000  
Fax: (617) 542-2241

Dated: December 10, 2002

TRA 1739105v1

Please type a plus sign (+) in this box

+

PTO/SB (12-97)

Approved for use through 9/30/00. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DEP 10 2002  
PATENT & TRADEMARK OFFICE  
JC16

Modified Form 1449/PTO		Application Number	09/996,187
		Filing Date	11/27/01
		First Named Inventor	McCarthy
		Group Art Unit	1645
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	22510-501

INFORMATION DISCLOSURE STATEMENT BY APPLICANT  
(use as many sheets as necessary)

U.S. PATENT DOCUMENTS							
Exam Initials	Cite No.	U.S. Patent Document No.	Issue Date	Name of Patentee(s) or Applicant(s)	Class	Sub Class	Filing Date If Appropriate
	A1	4,458,066	7/3/84	Caruthers et al.			3/24/81
	A2	4,683,195	7/28/87	Mullis et al.			2/7/86
	A3	4,683,202	7/28/87	Mullis			10/25/85
	A4	4,965,188	10/23/90	Mullis et al.			6/17/87
	A5	4,966,964	10/30/90	Shapiro et al.			4/14/87
	A6	5,035,996	7/30/91	Hartley			6/1/89
	A7	5,310,652	5/10/94	Gelfand et al.			6/24/93
	A8	5,322,770	6/21/94	Gelfand			12/22/89
	A9	5,324,637	6/28/94	Thompson et al.			11/9/93
	A10	5,411,876	5/2/95	Bloch et al.			5/27/92
	A11	5,418,149	5/23/95	Gelfand et al.			1/5/93
	A12	5,478,730	12/26/95	Alakhov et al.			12/16/92
	A13	5,492,817	2/20/96	Thompson et al.			6/27/94
	A14	5,552,302	9/3/96	Lewis et al.			7/27/94
	A15	5,595,739	1/21/97	Carman et al.			5/7/93
	A16	5,641,654	6/24/97	Maki et al.			6/22/93
	A17	5,643,768	7/1/97	Kawasaki			6/6/95
	A18	5,648,365	7/15/97	Sunkara et al.			3/11/96
	A19	5,650,268	7/22/97	Kozal et al.			6/6/95
	A20	5,654,150	8/5/97	King et al.			6/7/95
	A21	5,655,563	8/12/97	Johnson			12/19/94
	A22	5,658,754	8/19/97	Kawasaki			11/29/91
	A23	5,662,906	9/2/97	Maki et al.			5/24/95
	A24	5,665,780	9/9/97	Sunkara			12/6/95
	A25	5,670,521	9/23/97	Freedman et al.			1/4/96
	A26	5,726,025	3/10/98	Kirschner et al.			4/20/95
	A27	5,837,442	11/17/98	Tsang			10/28/96

U.S. PATENT DOCUMENTS							
Exam Initials	Cite No.	U.S. Patent Document No.	Issue Date	Name of Patentee(s) or Applicant(s)	Class	Sub Class	Filing Date If Appropriate
	A28	5,837,464	11/17/98	Capon et al.			1/29/97
	A29	5,837,536	11/17/98	McDonagh et al.			1/5/96
	A30	5,840,299	11/24/98	Bendig et al.			11/21/95
	A31	5,882,852	3/16/99	Bukh et al.			8/15/94
	A32	5,972,598	10/26/99	Chaudhary et al.			1/10/95
	A33	5,998,447	12/7/99	Stilz et al.			11/17/97
	A34	6,001,809	12/14/99	Thorsett et al.			6/6/95
	A35	6,001,991	12/14/99	Dean et al.			9/30/97
	A36	6,007,983	12/28/99	Dunn et al.			9/26/97
	A37	6,013,435	1/11/00	Nusbaum			9/29/95
	A38	6,043,045	3/28/00	Hoch et al.			5/29/98
	A39	6,043,048	3/28/00	Johnston et al.			7/26/96
	A40	6,096,308	8/1/00	Lal et al.			1/14/99
	A41	6,127,116	10/3/00	Rice et al.			3/4/97
	A42	6,127,158	10/3/00	Jentsch et al.			12/7/94
	A43	6,162,804	12/19/00	Bilodeau et al.			3/11/99
	A44	6,194,186	2/27/01	Lal et al.			11/25/97
	A45	6,207,669	3/27/01	Cockerill et al.			12/31/98
	A46	6,214,583	4/10/01	Cha et al.			5/16/95
	A47	6,218,393	4/17/01	Ryder et al.			6/9/99
	A48	6,228,575	5/8/01	Gingeras et al.			2/7/97
	A49	6,235,741	5/22/01	Bilodeau et al.			5/28/98
	A50	6,235,746	5/22/01	Davis et al.			2/16/99
	A51	6,242,187	6/5/02	Capon et al.			8/10/99
	A52	6,262,096	7/17/01	Kim et al.			12/15/99
	A53	6,265,403	7/24/01	Fraley et al.			1/7/00
	A54	6,288,267	9/11/01	Hull et al.			2/17/00
	A55	6,291,453	9/18/01	Ashwell et al.			7/30/98
	A56	6,291,511	9/18/01	Durette et al.			7/22/99
	A57	6,306,648	10/23/01	Lahti et al.			3/8/00
	A58	6,306,887	10/23/01	Chupak et al.			6/23/99
	A59	6,312,908	11/6/01	Wahl et al.			3/7/00
	A60	6,313,129	11/6/01	Uckun et al.			8/20/99
	A61	6,316,200	11/13/01	Nadeau et al.			6/8/00
	A62	6,316,466	11/13/01	Goldstein et al.			9/22/99





U.S. PATENT DOCUMENTS							
Exam Initials	Cite No.	U.S. Patent Document No.	Issue Date	Name of Patentee(s) or Applicant(s)	Class	Sub Class	Filing Date If Appropriate
	A63	6,326,151	12/4/01	Katze et al.			2/25/00
	A64	6,329,138	12/11/01	De Beenhouwer et al.			2/21/97

FOREIGN PATENT DOCUMENTS							
Exam Initials	Cite No.	Foreign Patent Document Office Number	Country or Patent Office	Date of Publication	Translation Yes	No	
B1	EP	0330506A2		Dana Farber Cancer Institute	8/30/89		
B2	EP	0174810B1		HSC Research Development Corporation	3/27/90		
B3	EP	0214640B1		Japanese Foundation For Cancer Research	3/18/87		
B4	WO	91/05210		Societe Generale Pour Les Techniques Nouvelles SGN	4/18/91		X
B5	WO	87/05943		Board Of Trustees Of University Of Illinois	10/8/87		
B6	WO	02/14860		Discema Limited	02/21/02		
B7	WO	00/18958		Government Of The Republic Of Singapore	04/06/00		
B8	WO	90/14148		Fenn	11/29/90		

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS		
Exam initials	Cite No.	Name of Author, Title (when appropriate), Publication, Volume, Page(s), Date, Etc.
C1		Fischer, et al., <i>Antimicrobial Agents and Chemotherapy</i> , 40(8): 1957-60 (1996).
C2		Zhou, et al., <i>Antimicrobial Agents and Chemotherapy</i> , 43(8): 1947-54 (1999).
C3		Fu, et al., <i>Antimicrobial Agents and Chemotherapy</i> , 44(12): 3402-07 (2000).
C4		Ladner, et al., <i>Antimicrobial Agents and Chemotherapy</i> , 41(8): 1715-20 (1997).
C5		Pichoud, et al., <i>Hepatology</i> , 29(1): 230-37 (1999).
C6		Xiong, et al., <i>Hepatology</i> , 31(1): 219-24 (2000).
C7		Ono, et al., <i>The Journal of Clinical Investigation</i> , 107(4): 449-55 (2001).
C8		Ono-Nita, et al., <i>The Journal of Clinical Investigation</i> , 103(12): 1635-40 (1999).
C9		Delaney, et al., <i>Antiviral Chemistry and Chemotherapy</i> , 12: 1-35 (2001).
C10		Ono-Nita, et al., <i>Hepatology</i> , 29(3): 939-45 (1999).
C11		Squires, <i>Antivir. Ther.</i> , 6 (Suppl 3): 1-14 (2001).
C12		Zuckerman, <i>Trans. R. Soc. Trop. Med. Hygiene</i> , 76: 711-18 (1982).
C13		Beasley, et al., <i>Lancet</i> , 2: 1129-33 (1981).
C14		Tiollais, et al., <i>Nature (London)</i> , 317: 489-95 (1985).
C15		Richman, et al., <i>J AIDS</i> , 3: 743-6 (1990).
C16		Larder, et al., <i>Science</i> , 246: 1155-58 (1989).
C17		Nunberg, et al., <i>Journal of Virology</i> , 65: 4887-92 (1991).
C18		Sardana, et al., <i>J. Biol. Chem.</i> , 267:17526-530 (1992).
C19		Zhong et al., <i>J. Virol.</i> , 74(19): 9134-43 (2000).
C20		Cummings, et al., <i>Anal. Biochem.</i> , 269(1): 79-93 (1999).
C21		Alter, <i>Infect. Agents Dis.</i> , 2: 155-66 (1993).

OTHER PRIOR ART - NON-PATENT LITERATURE DOCUMENTS		
Exam Initials	Cite No.	Name of Author, Title (when appropriate), Publication, Volume, Page(s), Date, Etc.
JC16 OCT 10 2002 PATENT & TRADEMARK OFFICE	C22	Houghton, <i>Virology</i> , 3rd Edition, Fields, et al. eds.: 1035-58 (1996).
	C23	Wang, et al., <i>Journal of Virology</i> , 67: 3338-44 (1993).
	C24	Tsukiyama-Kohara, et al., <i>Journal of Virology</i> , 66: 1476-83 (1992).
	C25	Lu et al., <i>Proc. Natl. Acad. Sci. USA</i> , 93: 1412-1417 (1996).
	C26	Chung, et al., <i>Proc. Natl. Acad. Sci. USA</i> , 98(17): 9847-52 (2001).
	C27	Love, et al., <i>Cell</i> , 87: 331-42 (1996).
	C28	Kim, et al., <i>Cell</i> , 87: 343-55 (1996).
	C29	Murakami, et al., <i>Arch. Virol.</i> , 146(4):729-41 (2001).
	C30	Kato, et al., <i>Proc. Natl. Acad. Sci. USA</i> , 87:9524 (1990).
	C31	Ding, et al., <i>Chin. Med. J.</i> , 111(2):128-31 (1998).
	C32	Holland et al., <i>J. Clin. Microbiology</i> , 34(10): 2372-8 (1996).
	C33	Zhong, et al., <i>Journal of Virology</i> , 74(4):2017-22 (2000).
	C34	Lohmann, et al., <i>J. Viral Hepat.</i> , 7(3):167-74 (2000).
	C35	Ferrari, et al., <i>Journal of Virology</i> , 73(2):1649-54 (1999).
	C36	Ishii, et al., <i>Hepatology</i> , 29(4):1227-35 (1999).
	C37	Behrens, et al., <i>EMBO J.</i> , 15(1):12-22 (1996).
	C38	Oh, et al., <i>J. Biol. Chem.</i> , 275(23):17710-17 (2000).
	C39	Mousavi-Jazi, et al., <i>J. Clin. Virol.</i> , 23(1-2):1-15 (2001).
	C40	Jabs, et al., <i>J. Infect. Dis.</i> , 183(2):333-37 (2001).
	C41	Teo, et al., <i>Journal of Virology</i> , 65(9): 4670-80 (1991).
	C42	Shieh, et al., <i>Journal of Biol. Chem.</i> , 273:30069-72 (1998).
	C43	Simbulan, et al., <i>Journal Biol. Chem.</i> , 268:93-99 (1993).
	C44	Trucco, et al., <i>FEBS Lett.</i> , 399:313-16 (1996).
	C45	Jeggo, et al., <i>Current Biol.</i> , 8:49-55 (1998).
	C46	Simbulan-Rosenthal, et al., <i>Journal Biol. Chem.</i> , 273:13703-12 (1998).
	C47	Urban , et al., <i>Journal Infect Dis.</i> , 184(6):794-8 (2001).
	C48	Schmitz, et al., <i>Antimicrob. Agents Chemotherapy</i> , 44(11):3229-31 (2000).
	C49	Ince, et al., <i>Antimicrob. Agents Chemotherapy</i> , 44(12):3344-50 (2000).
	C50	Pan, et al., <i>Antimicrob. Agents Chemotherapy</i> , 45(11):3140-7 (2001).
	C51	Richardson, et al., <i>Antimicrob. Agents Chemotherapy</i> , 45(6):1911-14 (2001).
	C52	Roychoudhury, et al., <i>Antimicrob. Agents Chemotherapy</i> , 45(4):1115-20 (2001).
	C53	Bamard, et al., <i>Antimicrob. Agents Chemotherapy</i> , 45(7):1994-2000 (2001).
	C54	Nakamura, <i>Antimicrob. Agents Chemotherapy</i> , 45(12):3366-74 (2001).
	C55	Wang, et al., <i>Chin. Med. J.</i> , 112(5):466-71 (1999).
	C56	Perea, et al., <i>Antimicrob. Agents Chemotherapy</i> , 45(10):2676-84 (2001).
	C57	Mellado, et al., <i>Journal of Clinical Microbiology</i> , 39(7):2431-38 (2001).
	C58	St. Georgiev, <i>Current Drug Targets</i> , 1(3):261-84 (2000).
	C59	Kalb, et al., <i>DNA</i> , 6(6):529-37 (1987).
	C60	Marichal, et al., <i>Microbiology</i> , 145: 2701-13 (1999).
	C61	Vanden Bossche, et al., <i>Drug Developmental Research</i> , 8:287-98 (1986).

OTHER PRIORITY ART - NON-PATENT LITERATURE DOCUMENTS		
Exam Details	Cite No.	Name of Author, Title (when appropriate), Publication, Volume, Page(s), Date, Etc.
JC16 33 OIE PATENT & TRADEMARKS DEC 10 2002	C62	Roget et al., <i>Nucl. Acids Res.</i> , 17(19): 7643-51 (1989).
	C63	Springer, <i>Nature</i> , 346:425-33 (1990).
	C64	Elices, et al., <i>Cell</i> , 60:577-84 (1990).
	C65	Yednock, et al., <i>Nature</i> , 356:63-66 (1992).
	C66	Baron, et al., <i>Journal of Experimental Medicine</i> , 177: 57-68 (1993).
	C67	Hamann, et al., <i>Journal of Immunology</i> , 152: 3282-3293 (1994).
	C68	van Dinther-Janssen, et al., <i>Journal of Immunology</i> , 147: 4207-4210 (1991).
	C69	van Dinther-Janssen, et al., <i>Annals Rheumatic Diseases</i> , 52: 672-676 (1993).
	C70	Elices, et al., <i>Journal of Clinical Invest.</i> , 93: 405-416 (1994).
	C71	Postigo, et al., <i>Journal of Clinical Invest.</i> , 89: 1445-1452 (1992).
	C72	Mulligan, et al., <i>Journal of Immunology</i> , 150: 2407-2417 (1993).
	C73	Yang, et al., <i>Proc. Natl. Acad. Sci. USA</i> , 90: 10494 (1993).
	C74	Burkly, et al., <i>Diabetes</i> , 43: 529-534 (1994).
	C75	Baron, et al., <i>Journal of Clinical Invest.</i> , 93: 1700 (1994).
	C76	Day, et al., <i>Cell Growth &amp; Differentiation</i> , 5: 735-41 (1994).
	C77	Powell, et al., <i>Cell Growth &amp; Differentiation</i> , 7: 419-28 (1996).
	C78	Lock, <i>Cancer Chemother. Pharmacol.</i> , 39(4): 399-409 (1997).
	C79	Kemp, et al., <i>Journal of Biological Chemistry</i> , 252: 4888-4894 (1977).
	C80	Casnelli, et al., <i>Meth. Enzymol.</i> , 200, Hunter, et al., eds.: 115-120 (1991).
	C81	Hogg, <i>Immun. Today</i> , 9:185-87 (1988).
	C82	Unkeless, <i>Ann. Rev. Imm.</i> , 6:251-81 (1988).
	C83	Burmeister, et al., <i>Nature</i> , 372(6504):336-43 (1994).
	C84	Simister, <i>Vaccine</i> , 16(14-15):1451-55 (1998).
	C85	Unkeless, et al., <i>J. Exp. Med.</i> , 150:580-596 (1979).
	C86	Titus, et al., <i>Journal of Immunology</i> , 139:3153-3158 (1987).
	C87	Van Dijk, et al., <i>Int. Journal of Cancer</i> , 44: 738-743 (1989).
	C88	Petropoulos, et al., <i>Antimicrobial Agents and Chemotherapy</i> , 44: 920-28 (2000).
	C89	Hertogs, et al., <i>Antimicrobial Agents and Chemotherapy</i> 42: 269-76 (1998).
	C90	Myers et al., <i>Biochemistry</i> , 30(31): 7661-66 (1991).
	C91	Young et al., <i>Clin. Microbiol.</i> , 33(3): 654-57 (1995).
	C92	Han et al., <i>Biochemistry</i> , 26: 1617-25 (1987).
	C93	Narang et al., <i>Meth. Enzymol.</i> , 68, Wu, ed.: 90-99 (1979).
	C94	Brown et al., <i>Meth. Enzymol.</i> , 68, Wu, ed.: 109-51 (1979).
	C95	Beaucage et al., <i>Tetrahedron Lett.</i> , 22: 1859-62 (1981).
	C96	Agrawal et al., <i>Nucl. Acids Res.</i> , 18(18): 5419-23 (1990).
	C97	MacMillan et al., <i>J. Org. Chem.</i> , 55: 5931-33 (1990).
	C98	Pieles et al., <i>Nucl. Acids Res.</i> , 17(22): 8967-78 (1989).
	C99	Telser et al., <i>J. Am. Chem. Soc.</i> , 111: 6966-76 (1989).
	C100	Goodchild, <i>Bioconjugate Chemistry</i> 1(3): 165-187 (1990).
	C101	Li et al., <i>Biochem. Cell Biol.</i> , 77: 119-26 (1999).



OTHER PRIOR ART - NON-PATENT LITERATURE DOCUMENTS		
Exam Initials	Cite No.	Name of Author, Title (when appropriate), Publication, Volume, Page(s), Date, Etc.
	C102	Kim et al., <i>Virus Gene</i> , 19: 123-30 (1999).
	C103	Qadri et al., <i>J. Biol. Chem.</i> , 274: 31359-365 (1999).
	C104	Xiong et al., <i>Hepatology</i> , 28: 1669-73 (1998).
	C105	Seifer et al., <i>J. Virol.</i> , 72: 2765-76 (1998).
	C106	Lee et al., <i>Biochem. Biophys. Res. Comm.</i> , 233: 401-407 (1997).
	C107	Landford et al., <i>J. Virol.</i> , 69: 4431-39 (1995).
	C108	Tavis et al., <i>Proc. Natl. Acad. Sci.</i> , 90: 4107-111 (1993).
	C109	Weisblum, <i>Antimicrobial Agents and Chemotherapy</i> , 39: 577-85 (1995).
	C110	Wolter, et al., <i>Biomedical Environ. Mass Spec.</i> , 14: 111-16 (1987).
	C111	Yamashita, et al., <i>J. Phys. Chem.</i> , 88: 4451-59 (1984).
	C112	Smith et al., <i>Anal. Chem.</i> , 62: 882-89 (1990).
	C113	Hillenkamp et al., <i>Biological Mass Spectrometry</i> , 49-60 (1990).
	C114	Huth-Fehre et al., <i>Rapid Communications in Mass Spectrometry</i> , 6:209-13 (1992).
	C115	Condra et al., <i>Report 3<sup>rd</sup> Conference on Retroviruses and Opportunistic Infections</i> , Abstract 145: 80 (1996).

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

TRA 1712117v1